WHAT IS CLAIMED IS:

1. A frame for a color selection electrode assembly for supporting a color selection electrode body under tension, comprising

at least two support parts joined together at a predetermined angle, wherein

at least one projection having a convex surface and at least one shear plane is formed on one of said support parts, and

an edge of the other one of said support parts is arranged to be in contact with a main surface of said one of said support parts and said shear plane.

2. A frame for a color selection electrode assembly for supporting a color selection electrode body under tension, comprising:

a pair of first frames; and

a pair of second frames for holding said pair of first frames substantially in parallel to each other with a predetermined space therebetween, wherein

said pair of first frames are each formed in a substantially triangular sectional shape, each including a first support part having one side edge to which said color selection electrode body is secured, a second support part having one side edge connected to the other side edge of said first support part through a bend, and a third support part having one side edge connected to the other side edge of said second support part through a bend, and

at least one projection having a convex surface and at least one shear plane is formed in an inner position of the one side edge of said first support part, and the other side edge of said third support part is arranged to be in contact with a main surface of said first support part and said shear plane.

3. The frame according to claim 2, wherein

when there is no load created by tension of said color selection electrode body, said first support part is curved arcuately to expand in a direction opposite to a direction that the tension of said color selection electrode body works.

4. The frame according to claim 2, wherein

a holding member is attached to each of said pair of first frames, said holding member including a curved holding part along the outline of said bend between said first and second support parts and a holding part along the outline of said bend between said second and third support parts.

5. The frame according to claim 2, wherein

at least end portions of said first and second support parts are mechanically stronger than the middle portions thereof.

6. The frame according to claim 2, wherein

said third support part has a bead formed thereon extending in the widthwise direction thereof.

7. The frame according to claim 2, wherein

a sheet-like reinforcing member is provided for said third support part, said reinforcing member being substantially perpendicular to said third support part and extending along the widthwise direction of said third support part.

8. The frame according to claim 2, wherein

a connecting member is provided at each of connected portions between said pair of first frames and said pair of second frames for supporting connection.

9. The frame according to claim 2, wherein

said first support part and said second support part make an angle greater than 90 degrees.

10. The frame according to claim 2, wherein

said pair of second frames are formed by bending, and

at least one of an extending direction of said bend of each of said pair of first frames and that of said bend of each of said pair of second frames is substantially perpendicular to a rolling direction of a parent sheet material for said pair of first frames and said pair of second frames.

11. The frame according to claim 2, wherein

a connected portion between sheet materials include a weld line having a fusion width equal to or smaller than 2mm.

12. The frame according to claim 2, wherein

at least one of said pair of first frames and said pair of second frames is formed of one of a dual phase stainless steel substantially comprised of ferritic phase and martensitic phase and a precipitation hardening stainless steel, and is subjected to at least one of blackening, age hardening treatment and precipitation hardening heat treatment at temperatures ranging from 450 to 500℃.

13. The frame according to claim 2, wherein

the one side edge of said first support part has a shear drop, a shear plane and a fracture surface created by press-shearing, said shear drop and said shear plane being provided on an outer side of said first support part with respect to said fracture surface, and

said color selection electrode body is securely supported at said shear drop and said shear plane.

14. The frame according to claim 2, wherein

a thermal expansion coefficient of said pair of first frames under a temperature condition ranging from a normal temperature to 500℃ is defined in such a range that a difference from a thermal expansion coefficient of said color selection electrode body under said temperature condition is within 10%.

15. A frame for a color selection electrode assembly for supporting a color selection electrode body under tension, comprising:

a pair of first frames; and

a pair of second frames for holding said pair of first frames substantially in parallel to each other with a predetermined space therebetween, wherein

said pair of first frames are each formed in a substantially triangular sectional shape, each including a frame body in a substantially L-sectional shape having a first support part having one side edge to which said color selection electrode body is secured and a second support part having one side edge connected to the other side edge of said first support part through a bend, and a third support part for covering an open side of

said frame body opposite to said bend,

at least one first projection having a convex surface and at least one shear plane is formed in an inner position of the one side edge of said first support part, while at least one second projection having a convex surface and at least one shear plane is formed in an inner position of the other side edge of said second support part, and

the one side edge of said third support part is arranged to be in contact with a main surface of said second support part and said shear plane of said second projection, while the other side edge of said third support part is arranged to be in contact with a main surface of said first support part and said shear plane of said first projection.

16. The frame according to claim 15, wherein

at least part of said third support part is mechanically stronger than said first and second support parts.

17. The frame according to claim 15, wherein

said second support part is wider at end portions thereof than at a middle portion thereof.

18. The frame according to claim 15, wherein

said third support part has a bead formed thereon extending in the widthwise direction thereof.

19. The frame according to claim 15, wherein

a connecting member is provided at each of connected portions between said pair of first frames and said pair of second frames for supporting connection.

20. The frame according to claim 15, wherein

at least one of said pair of first frames and said pair of second frames is formed of one of a dual phase stainless steel substantially comprised of ferritic phase and martensitic phase and a precipitation hardening stainless steel, and is subjected to at least one of blackening, age hardening treatment and precipitation hardening heat treatment at temperatures ranging from 450 to 500℃.

21. A method of manufacturing a color selection electrode assembly, comprising the steps of:

(a) forming a pair of first frames and a pair of second frames by pressing a sheet material;

(b) joining said pair of first frames and said pair of second frames to form a rectangular frame;

(c) securing a color selection electrode body to said pair of first frames while pressing side faces of said pair of first frames in the direction that they approach each other, and thereafter releasing a pressure imposed on said pair of first frames; and

(d) performing heat treatment for heating said pair of first frames and said pair of second frames at temperatures ranging from 450 to 500℃ after pressing in said step (a) and before said step (c).